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Title

MESITA DEL BUEY CAVATE SURVEY

Cultural Resource Survey Report No. 187

Prepared by

Bradley J. Vierra, Jennifer E. Nisengard, and Kari M. Schmidt

RRES-ECO Cultural Resources Management Team
Risk Reduction and Environmental Stewardship Division
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MESITA DEL BUEY CAVATE SURVEY

Cultural Resource Survey Report No. 187

Los Alamos National Laboratory

August 22, 2000
Survey No. 816

Prepared for the Department of Energy
Office of Los Alamos Site Operations

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ABSTRACT

The Cultural Resource Team at the Ecology group recorded thirteen cavate and four rock art sites located along the southern face of Mesita del Buey. The Mesita del Buey Cavate Project was conducted during July and August 2000 at the request of the Facilities and Waste Operations Division at Los Alamos National Laboratory. The sites are located to the immediate west of Technical Area (TA) 54 within TA-36.

This work was conducted in response to concerns raised by the Pueblo of San Ildefonso that activities in Area G at TA-54 were adversely affecting nearby cavate sites. Although Jim Jorgensen had originally located the sites in 1986, he only conducted a cursory inspection of them. This report presents the results of the systematic recording of the sites, including information on the nature and condition of the cavates and rock art. Thirteen of the cavate complex sites and all three of the rock art sites are considered eligible for inclusion to the National Register of Historic Places (LAs 82605, 86615, 86616, 86617, 86620, 86621, 86622, 86623, 86624, 86625, 86626, 86627, 86629, 86630, 86631, and 86632). LA 86628 was, however, mostly destroyed by artillery fire in the 1950s and is not considered eligible. Otherwise, the sites are generally in good condition with approximately 200 individual cavates or rock-cut rooms being represented.

PROVENIENCE AND ENVIRONMENTAL SETTING

Location: Technical Area (TA) 36, Los Alamos National Laboratory (LANL)

Land Manager: The Department of Energy (DOE)

Legal Description: T. 19N, R. 6-7 E, unplatted

Survey Dimension: 78 hectares (194 acres)

Map: United States Geological Survey (USGS) White Rock and Frijoles 7.5 Minute Series

Topography: Mesita del Buey

Nearest Drainage: Pajarito Canyon

Elevation: 2021 to 2065 m (6630 to 6775 ft)

Vegetation: Piñon and juniper overstory with blue grama, snakeweed, and saltbush understory (Foxx and Tierney 1985)

Soil Type: Rock outcrop

Bedrock: Tshirege Member of the Bandelier Tuff (Los Alamos National Laboratory 1982)

SURVEY PROJECT DESCRIPTION AND METHODS

A cultural inventory survey was conducted along the southern edge of Mesita del Buey at TA-36 adjacent to TA-54. Seventeen sites with approximately 200 cavates and numerous rock art panels are located along the escarpment overlooking Pajarito Canyon. These sites were systematically recorded and their condition assessed. This work was done in response to concerns raised by the San Ildefonso Pueblo. In their comments to the Site Wide Environmental Impact Statement (SWEIS) they state that

> the past and continued development of TA-54 has already potentially impacted those sites along the mesa edge…monitoring should be established using earlier recordation records to establish impacts and potential future effects. Sites should be evaluated to determine if stabilization or rehabilitation should be conducted to protect these sites (Department of Energy 1999).

A previous survey had identified the presence of seventeen cavate and/or rock art sites along the south-facing slopes below TA-54 in 1986 (Jorgensen 1987). These sites cover a linear distance of approximately 2930 m (9600 ft) along the escarpment and consist of LAs 82605, 86615, 86616, 86617, 86620, 82221, 86622, 86623, 86624, 86625, 86626, 86627, 86628, 86629, 86630, 86631, and 86632. However, Jorgensen only provided brief site descriptions, idealized sketch maps, and a few photographs. The sites were therefore revisited and systematically recorded. Detailed descriptions of all the site features were made, scaled drawings of the site plan and profiles done, an infield artifact analysis conducted, and photographs taken. Sites that Jorgensen had previously photographed were photographed again in order to identify any changes in site condition that might have occurred over this fourteen-year period. All of this information was then incorporated into the New Mexico Historic Preservation Division, Archaeological Research Management System (ARMS) site forms. A datum consisting of a piece of rebar and aluminum cap with the site number was placed near the center of each site.

The Mesita del Buey Cavate Project was initiated at the request of the Facilities and Waste Operations Division at LANL and conducted with the cooperation of Ed Lopez, TA-54 Environmental Monitoring Program Project Leader. Bradley Vierra was the Ecology group (ESH-20) project director, with the following staff members acting as the field crew: Steve Hoagland, Brian Harmon, Alan Madsen, Alysia McLain, Jennifer Nisengard, and Kari Schmidt. Ed Lopez also participated as a field crew member. The project was conducted from July 30 to August 16, 2000.

CULTURE HISTORY OVERVIEW

Overviews of the regional culture history are presented in Cordell (1979a, 1979b, 1997) Stuart and Gauthier (1981), and most recently by Riley (1995). The chronological sequence was developed by Wendorf (1954) and later modified by Wendorf and Reed (1955) for the northern Rio Grande. Table 1 illustrates the regional chronologies as defined by Cordell (1979a), Irwin-Williams (1973), and Wendorf and Reed (1955). The following outline briefly summarizes each cultural period, as it is understood for the central portion of the Pajarito Plateau.

Table 1. Culture Historical Chronology for the Northern Rio Grande

CULTURE	PERIOD	DATES
Paleoindian	Clovis	9500–9000 BC
	Folsom	9000–8000 BC
	Late Paleoindian	8000–5500 BC
Archaic	Jay	5500–4800 BC
	Bajada	4800–3200 BC
	San Jose	3200–1800 BC
	Armijo	1800–800 BC
	En Medio	800 BC–AD 400
	Trujillo	AD 400–600
Ancestral Pueblo	Early Developmental	AD 600–900
	Late Developmental	AD 900–1200
	Coalition	AD 1200–1325
	Classic	AD 1325–1600
Native American, Hispanic, and Euro-American	Spanish Colonial	AD 1600–1821
	Mexican	AD 1821–1846
	U.S. Territorial	AD 1846–1912
	Statehood to World War II	AD 1912–1945
	Recent	AD 1945–present

PALEOINDIAN PERIOD: 9500 BC to 5500 BC

Small groups of Paleoindian hunter-gatherers may have followed bison herds up and down the Rio Grande, with trips onto the Pajarito Plateau to procure obsidian and other subsistence resources. This period is represented on LANL land by a Folsom point found by Steen (1977:7) on a mesa north of Ancho Canyon. Clovis, Folsom, and Planview points have also been identifed at other locations on the Plateau (Acklen 1993, 1997; Lent et al. 1986; Traylor et al. 1990; Wiseman 1992). Obsidian obtained from Jemez Mountains sources have been found on Paleoindian sites located as far away as northern Colorado (Wilmsen 1974:114).

ARCHAIC PERIOD: 5500 BC to AD 600

Archaic hunter-gatherer groups relied on a variety of small game and plant species, while hunting with the spear and atlatl. Piñon-juniper woodlands on LANL land contain

evidence of these temporary campsites as scatters of obsidian lithic tools, chipping debris, and diagnostic projectile points (e.g., Biella 1992; Moore et al. 1998; Baker and Winter 1981). These sites presumably reflect the seasonal use of these upland settings during the fall for pine nut collecting, hunting, and lithic procurement activities. Winter sites with structures have been excavated at lower elevations near Otowi at the Rio Grande (Lent 1991) and at Abiquiu Reservoir (Stiger 1986). The Late Archaic continues the hunting and gathering pattern with the addition of maize cultivation to the subsistence base. Maize has been directly dated to 2440±250 BP (uncorrected; M-466; Crane and Griffen 1958) and 2410±360 BP (Arizona; Long in Ford 1985) at Jemez Cave located near the Soda Dam at Highway 4.

EARLY DEVELOPMENTAL PERIOD: AD 600 to 900

Maize horticulturists who lived in semi-subterranean pithouses characterized the Early Developmental period. They began to make painted pottery with simple designs (e.g., Lino Gray or Kana'a Gray) and used the bow and arrow. Most habitation sites are located at lower elevations near the Rio Grande, with the Plateau continuing to be used on a seasonal basis. There is no archaeological evidence for this period at LANL.

LATE DEVELOPMENTAL PERIOD: AD 900 to 1200

Late Developmental horticulturists still relied to a great extent on hunting and gathering. Pithouses persisted in some places, but sites are typically small adobe masonry structures that are found at wider range of altitudes. Kawhe'e Black-on-white is a mineral-painted pottery that is produced during this time period. Indented corrugated wares are used as cooking and storage vessels. Only a few possible pithouse locations and associated artifacts have been identified on LANL land.

COALITION PERIOD: AD 1200 to 1325

The Coalition period saw a substantial increase in the number, size, and distribution of aboveground habitation sites, with year-round settlements expanding into upland areas on the Pajarito Plateau. The long-term process of site aggregation begins during this period, with early sites containing adobe and masonry rectangular structures with 10 to 20 rooms. These small rubble mound sites are the most common at LANL. In contrast, later sites of this period consist of large masonry enclosed plaza pueblos that contain over 100 rooms. The construction of agricultural features such as terraces, gravel mulch gardens, and dams suggest an even greater reliance on horticulture. Most researchers attribute the increase in site density to migration (Wendorf and Reed 1955, Cordell 1979b, Hill and Trierweiler 1986; Hill et al. 1996), but others see the increase in site numbers a result of local population growth (Steen 1982). The beginning of the Coalition period coincides with the shift from mineral- to organic-painted pottery, including Santa Fe Black-on-white. Ceramic cooking and storage vessels are mainly produced using a smeared-indented corrugated style.

CLASSIC PERIOD: AD 1325 to 1600

The Classic period is characterized by intensive maize agriculture. Ancestral Pueblo settlements on the Pajarito Plateau are aggregated into three population clusters with outlying one- to two-room fieldhouses. The central site cluster consists of four temporally overlapping sites: Tsirege, Navawi, Tsankawi, and Otowi. Otowi and Tsirege are located on LANL land. Mera (1935) suggested that the initial occupation of these pueblos had occurred during the fourteenth century. Tsirege, Tsankawi, and Otowi continued to be occupied during the fifteenth century, with only Tsirege and Tsankawi remaining by the sixteenth century. Oral traditions at San Ildefonso indicate that Tsankawi was the last of the Plateau pueblos to be abandoned. The introduction of glaze-painted ceramics to the south of Frijoles Canyon and the production of biscuitwares in the northern Rio Grande area mark the beginning of the Classic period. These biscuitwares include a temporal sequence from Biscuit A (Abiquiu Black-on-gray) to Biscuit B (Bandelier Black-on-gray) to Biscuit C (Cuyamungue Black-on-tan). Sankawi Black-on-cream, Potsuwi'i Incised, and plainware cooking vessels are also produced during this time period. The latter utility pottery can include micaceous types. This central group of four Classic period ruins are ancestral to the Tewa speakers now living at San Ildefonso Pueblo.

SPANISH COLONIAL PERIOD: AD 1600 to 1821

Due to a series of droughts, the Plateau was eventually abandoned during the mid-1500s. New pueblos were occupied in the Rio Grande valley. Although the historic period begins with Coronado's exploratory expedition up the Rio Grande in 1540–1541, most researchers date the period from about AD 1600. This date corresponds with Oñate's settlement in New Mexico and imposition of the Spanish ecomienda/estancia system on Rio Grande populations. The Spanish controlled Pueblo pottery production requiring the manufacturing of European vessel forms and taxation jars. These jars were sized to provide specific volumes for grain taxation. They often exhibited a distinctive shoulder at the mid-point of the vessel. Historic ceramic types include Tewa Polychrome, Kapo Gray or Black, and Ogapoge Polychrome. The Pueblo Indians revolted against the Spanish in 1680, with some sites on the Plateau being reoccupied during this refugee period (e.g., Nake'muu).

With the reconquest and resettlement of New Mexico by de Vargas (1693–1696), the economic and settlement systems were completely overhauled (Simmons 1969). The huge mission establishments disappeared as did the estancias of the encomienderos. In their place land was granted to dozens of Hispanic communities and individuals that worked the property themselves. Hundreds of these small land holdings were scattered throughout the Rio Arriba and Rio Abajo.

Athabaskans have been present in northwestern New Mexico since the fifteenth century; however, the ethnohistorical evidence for Navajos and Jicarilla Apaches in the northern Rio Grande begins with the Spanish Colonial period (Forbes 1960; Friedlander and Pinyan 1980; Marshall 1995; Marshall and Hogan 1991; Opler 1936, 1971; Tiller 1992). The Navajos primarily resided in the Gobernador region, but made periodic visits to the Rio Grande valley and Jemez Mountains. The presence of Tewa Polychrome and Jemez

obsidian at Pueblito sites attests to these contacts. Some Jicarilla groups wintered in the area of Abiquiu, with seasonal hunting and gathering trips made to the nearby mountains. Two rock rings that could possibly represent the remains of a tipi or wickiup were recorded in Rendija Canyon (Peterson and Nightengale 1993). Test excavations identified the presence of a hearth inside one of the structures that yielded a radiocarbon date of 130±60 BP (Beta-58428). This would reflect a calibrated date for the feature within the eighteenth or ninteenth centuries. A single obsidian flake was the only artifact recovered. Possible Jicarilla rock ring sites with associated micaceous pottery have been reported for the Rio del Oso valley near Española (Anschuetz per. com. 1999) and at Pecos National Monument (Gunnerson and Gunnerson 1970). Schaasfma (1977, 1992) suggests a possible Navajo affiliation for Piedra Lumbre sites in the Abiquiu area, although Carrillo (1992) considers that some of these sites are associated with local Tewa peoples.

MEXICAN PERIOD: AD 1821 to 1846

Mexico declared its independence from Spain in 1821, which brought about a more lenient land grant policy and expansion of the trade network (Levine et al. 1985). Trade between Missouri and Santa Fe along the Santa Fe Trail began soon after independence and dominated events in New Mexico for the next quarter century (Connor and Skaggs 1977). This introduced some comparatively inexpensive Euro-American goods to New Mexico, which is reflected in the increase of manufactured items found on sites from this period (Moore 1993).

U.S. TERRITORIAL: AD 1846 to 1912

New Mexico remained a part of Mexico until war broke out with the United States. Troops led by Colonel Stephen W. Kearny raised the American flag at Santa Fe and took possession of New Mexico for the United States on August 18, 1846. Grazing and seasonal utilization of the Plateau occurred by non-Indians during the early historic periods, with the first homesteads being established on the Pajarito Plateau during the 1880s (Scurlock 1981:138). New Mexico was provided with a territorial government in 1850, and it remained a territory until it was granted statehood in 1912.

STATEHOOD TO WORLD WAR II PERIOD: AD 1912 to 1945

The early 1900s in New Mexico saw a continuation of traditional farming, cattle grazing, timbering, and cultural practices. Seasonal homesteading continued on the Plateau, though mostly as a supplement to established year-round residences. Hispanic and Anglo Homestead Era sites are characterized by wooden cabin and corral structures, rock or concrete cisterns, and a scattering of debris associated with household and farming/grazing activities. In discussing the homestead occupation of current LANL lands in this report, it is noted that nearly all of the evidence for homesteading dates to the period of 1912–1945, likely reflecting response to the Enlarged Homestead Act of 1909 and the Grazing Homestead Act of 1916 (Scurlock 1981). Greater railroad and automobile use allowed for an increase in commerce and tourism, and by the 1940s, New Mexicans began to leave the village rural life for jobs in the larger cities, such as Albuquerque, or for jobs outside the state (Simmons 1993:182).

In 1942, Franklin D. Roosevelt gave the approval to develop the world's first atomic bomb. Because of its isolated location, Los Alamos, New Mexico, was selected as the site of the bomb's design and construction. This project came to be known as Project Y, a subset of the Manhattan Project. The creation of a modern town in Los Alamos influenced surrounding communities in northern New Mexico. Lands owned by the Los Alamos Ranch School and mostly Hispanic homesteaders were appropriated for use by the Manhattan Project in 1942, thus effectively ending the Homestead Era on the Pajarito Plateau (Los Alamos National Laboratory 1997).

PREVIOUS RESEARCH

Archaeological investigations on Mesita del Buey began with the work of Hewett (1906, 1938) at LA 170 (Tshirege) in the early 1900s. Not until the 1950s and the establishment of the Los Alamos Scientific Laboratory was archaeological field work continued on lands that were then in the jurisdiction of the Atomic Energy Commission. Frederick Worman conducted archaeological surveys of the facility and excavation of four sites at TA-54: LAs 4628, 4631, 4632, and 4633 (Worman 1967). The latter three sites were excavated in the location of the initial low-level waste disposal pits. They represent Coalition period pueblos that contain 7, 20, and 3 rooms, respectively. Only that portion of LA 4628 that was situated within a roadway was excavated, including seven rooms. The ceramic assemblages vary somewhat between the sites, with mostly Santa Fe Black-on-white being present at LAs 4628 and 4631, and slightly more Santa Fe than Wiyo Black-on-white at LA 4632. This could imply that the larger pueblo of LA 4632 may be slightly later in time than the other pueblos. Only three sherds were recovered from LA 4633 including both Santa Fe and Wiyo Black-on-white.

Charlie Steen continued the archaeological work in TA-54 during the 1970s. Further expansions within the facility required the excavation of an additional three sites: LAs 4627, 4628, and 4629 (Steen 1982). Thirteen, eleven, and fifteen rooms were excavated at these sites, respectively. This includes the remaining unexcavated portion of LA 4628. The ceramic analyses of these sites appear to differ somewhat from that of Worman. Although the ceramic assemblage from LA 4627 is also dominated by Santa Fe Black-on-white, both LA 4628 and 4629 contain mostly Wiyo Black-on-white. Even Steen (1982:17) notes the discrepancy between the two ceramic analyses from LA 4628. He suggests that Worman was classifying some sherds as Santa Fe Black-on-white that he would have classified as Wiyo Black-on-white, noting that the presence of a few biscuitware sherds would seem to support the identification of the later Wiyo type. Overall, these sites probably date from the Coalition to possibly the early Classic period. They consist of linear roomblocks that are oriented north-south, one to three rooms deep, and facing east. Construction masonry consists of shaped tuff blocks. A single bedrock-cut kiva is present at the larger pueblo of LA 4632.

A regional archaeological survey was conducted by the University of California at Los Angeles (UCLA) during the 1970s (Hill and Trierweiler 1986; Hill et al. 1996). Approximately 800 sites were recorded by the project, including revisits to sites LA 4619 and LA 4632 on Mesita del Buey. UCLA recorded a surface artifact scatter situated outside the facility fence as part of LA 4632. LANL records denote the excavated roomblock as LA 4632A and the surface scatter as LA 4632B. LA 4632B contains several Santa Fe Black-on-white and biscuitware sherds. In contrast, LA 4619 is dominated by Santa Fe Black-on-white.

Jim Jorgensen was an employee at LANL who volunteered to record cavate sites during the 1980s. He conducted a survey of the cavates along the southern edge of Mesita del Buey in 1987. The following sites were recorded during his survey: LAs 86615, 86616, 86617, 86620, 86621, 86622, 86623, 86624, 86625, 86626, 86627, 86628, 86629, 86630, and 86631 (Jorgensen 1987).

Beverly Larson resurveyed and revisited previously recorded sites at TA-54 in 1985 (Larson 1986). This work included a survey of the Area G expansion area and the eventual development of a data recovery plan for seven Coalition period sites that were situated in the area of a proposed low-level waste disposal pit (LAs 4620, 4621, 4622, 4623, 4624, 4625, and 4626) (Larson 1991a, 1991b). Ms. Larson subsequently conducted excavations of a Coalition period pueblo at Area L from 1990 to 1991. This site was in danger of being impacted by building construction. A total of nine rooms and two kivas were excavated at LA 4618 (Figure 1); however, no final report was completed for this project.

Acklen et al. (1990) conducted a survey on Mesita del Buey as part of the Ojo Line Extension Project. A semicircular shaped feature that had been cut into the bedrock was located along the mesa edge outside of the fence at Area G (LA 82607).

In 1993 excavations began at LA 4624 in Area G (Figure 2). An additional surface scatter (LA 89812) was defined within the mitigation area during preliminary surface-collection activities. However, excavations were terminated at the request of San Ildefonso Pueblo. Therefore, only partial excavations of 22 rooms and a kiva were completed at LA 4624. The Area G expansion project was incorporated into the pending LANL SWEIS in 1994. Not until 1999 was the final SWEIS published by the DOE and a decision made not to construct an additional storage pit in the area of these pueblo sites. Pending funding, the LAs 4624 and 89812 excavation report is expected to be completed in the next several years.

The Wildfire Prevention Project represents the most recent work to be conducted at TA-54. This project involved thinning brush along the periphery of the facility fence to reduce the source of fuel for wildfires. Six archaeological sites were identified during the survey (Vierra 1998).

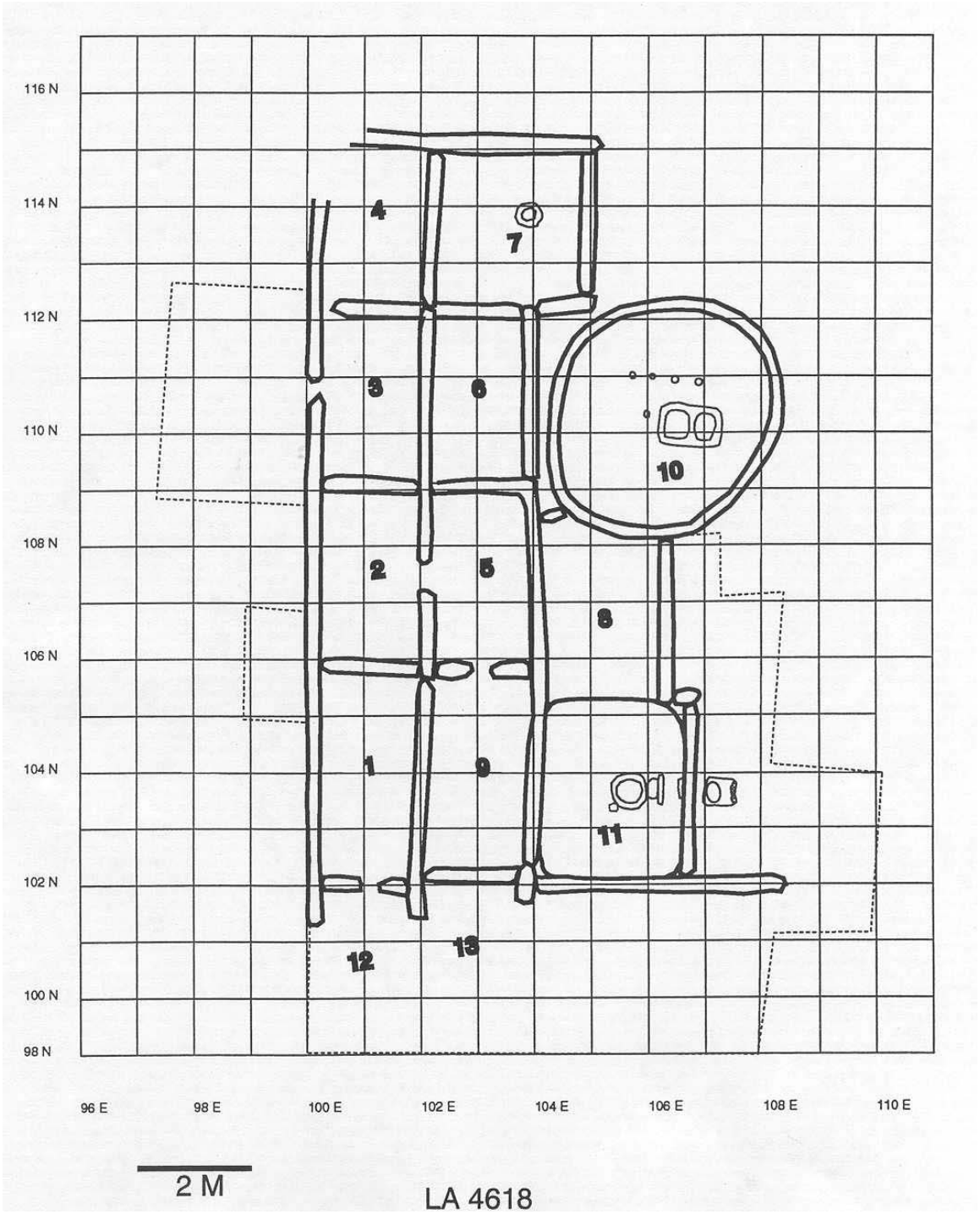


Figure 1. LA 4618 Site Plan.

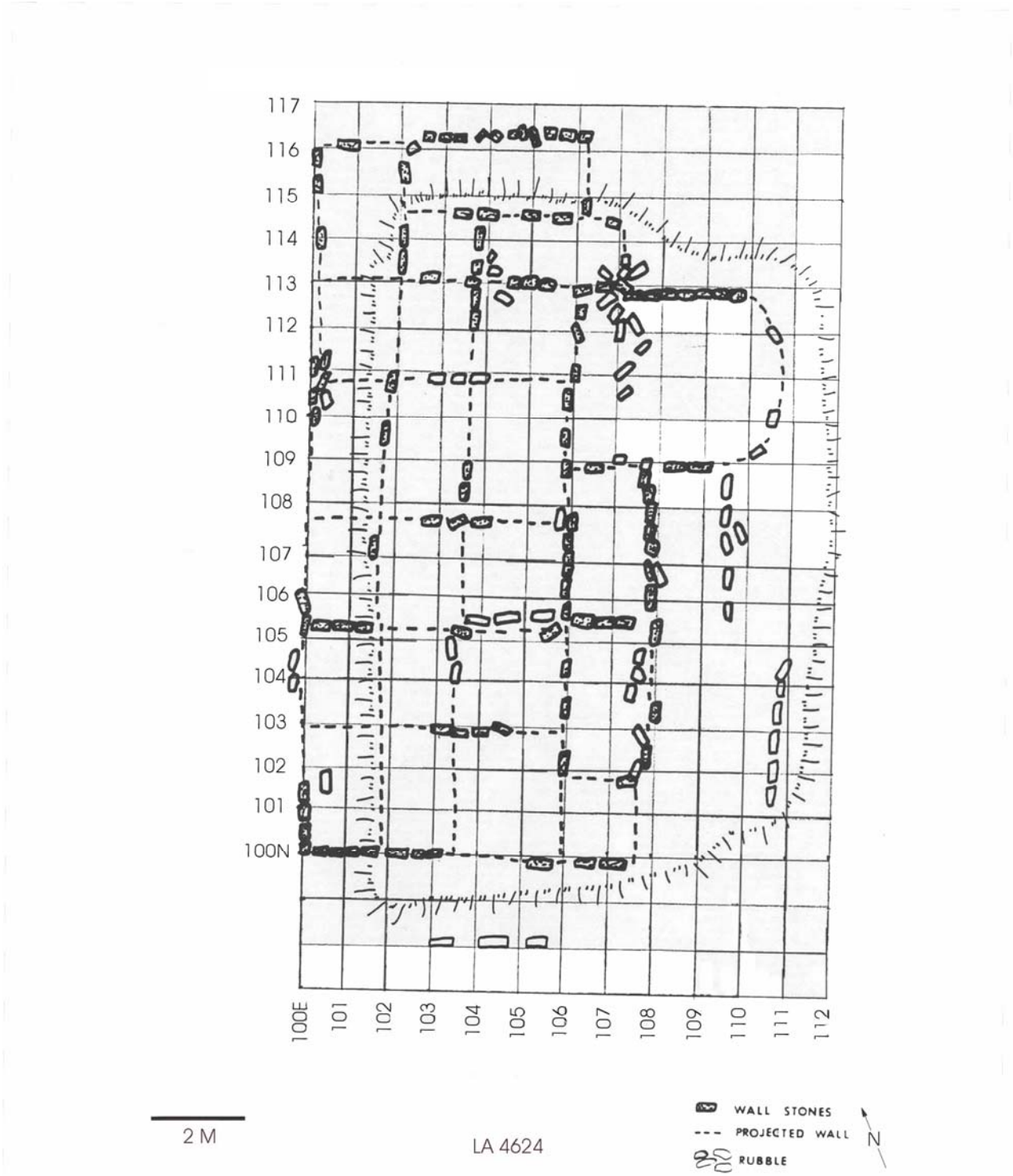


Figure 2. LA 4624 Site Plan.

RESEARCH DESIGN

Over 1500 archaeological sites have been identified at LANL. Approximately 60 of these are located at TA-54. Some of these sites consist of artifact scatters that reflect the ephemeral remains of temporary campsites, while others are large rubble mounds that represent the collapsed remains of multistory pueblos. Together they reveal a story of over 10,000 years of human occupation on the Pajarito Plateau.

As Cordell's (1997) overview of Southwestern prehistory states, the variation seen in Southwestern prehistoric societies is most likely attributed to differing responses to resource unpredictability. Working with this assumption, several recent studies on the Pajarito Plateau have attempted to address how environmental stress and resource unpredictability affect these societies (Hill et al. 1996; Kohler 1989; Kohler and Linse 1993; Orcutt 1991; Powers and Orcutt 1999; Walsh 1998). All of these studies have attempted to understand the cultural dynamics of the Coalition and Classic periods on the Pajarito Plateau. Much of this research indicates that there is a succession of settlement types from the Coalition to Classic periods culminating in an aggregated system with a smaller population and a broader subsistence base that is more heavily dependent on maize agriculture.

The function and temporal usage of the many cavate structures at LANL and throughout the Pajarito Plateau are poorly known. Individual cavates are assumed to have functioned as habitation, storage, and/or ceremonial rooms during portions of the Coalition and Classic periods. Cavates can contain unique features and architectural details not known for seemingly contemporaneous free-standing pueblos, such as the intentional smoke-blackening of ceilings and the upper portions of walls, and a distinctive petroglyph style scratched into these smokened walls and ceilings. Detailed studies of cavate structures at Bandelier National Monument (Toll 1995) have led to some preliminary conclusions regarding cavates, but, for the most part, questions regarding both function and usage remain largely unanswered. There is some likelihood that groups of cavates are spatially and temporally related to nearby large, free-standing pueblos, but even the timing and nature of these relationships are uncertain. For example, do cavates represent the abodes of certain specific social groups within an individual pueblo community?…seasonal habitations of entire pueblo communities?…places of temporary refuge?…the fulfillment of certain religious or cosmological belief?…or perhaps a combination of these purposes?

<u>Question 1</u>: To what period(s) do the cavates date?

<u>Question 2</u>: Is the internal organization of the sites similar, or does this pattern change over time?

<u>Question 3</u>: What are the similarities and differences between the motifs found within cavates and the external petroglyphs?

<u>Question 4:</u> What condition are the cavates currently in, and is there evidence that they have changed since the 1987 survey?

DESCRIPTION OF CULTURAL RESOURCES IN PROJECT AREA

Seventeen archaeological sites were recorded along a 2930 m (9600 ft) strip of the south-facing escarpment of Mesita del Buey. Most of these sites represent cavate complexes, including cavates, rock-cut rooms, and possibly petroglyphs (LAs 82605, 86615, 86616, 86617, 86620, 86621, 86622, 86623, 86624, 86625, 86626, 86627, 86628, 86629, 86630, 86631, and 86632). Otherwise, four sites soley consist of petroglyph panels (LAs 86622, 86624, 86631, and 86632. The locations of these sites are given in Appendix A. A table listing all 17 sites by site number, site type, cultural/temporal affiliation, Universal Transverse Mercador (UTM) coordinates, and National Register eligibility is presented in Appendix B. New Mexico Cultural Resource Inventory System (NMCRIS) site forms are provided in Appendix C. These forms contain information on each site, site maps, cavate data tables, artifact analysis sheets, and drawings of rock art and selected artifacts.

LA 82605

LA 82605 (J-14) is a cavate complex distributed along a 30 m (99 ft) section of south-facing cliff face of Mesita del Buey. The site overlooks Pajarito Canyon and is situated at an elevation of 2038 m (6688 ft). Isolated piñon, juniper, and ponderosa pine trees dot the lower talus slopes, with an understory of grama grass, snakeweed, and saltbush.

Most of the cavates are deteriorated, with some being highly eroded and barely visible. The site consists of five cavates, a large talus unit, and petroglyph panels. The latter are located along the cliff face above the cavates. The cavates range in size from 2.25 to 3.0 m in diameter, with one of the talus rooms measuring 1.7 by 3.0 m. The talus rooms consist of masonry block alignments that could represent a lower block of about ten or more rooms in front of Cavates 5 and 6. Cavates 1 and 3 also have masonry blocks situated at their entrances. Otherwise, the cavates are in eroded condition with no sooting or plaster. They do contain from 0 to 40 cm of fill, and five maize cob fragments were collected from Cavate 2. Only Cavates 1 and 2 contain internal features. A sample of eight masonry blocks range from 32 to 50 cm long and 16 to 20 cm wide. The rock art is distributed among 11 panels that are numbered from west to east. Panel 1 contains two geometric designs. Panel 2 comprises two kokopelli figures and geometric designs. Panel 3 consists of a maize stalk, a human figure, a set of concentric circles, and several other glyphs. Panel 4 comprises a series of parallel lines with two perpendicular lines cutting through them. Panel 5 is highly eroded, but contains four maize stalks and an upward pointing arrow. Panel 6 comprises two spirals and a maize stalk. Panel 7 has two human figures and a maize stalk. Panel 8 consists of a single human figure. Panel 9 contains two glyphs and Panel 10 two maize stalks and two animal figures. Lastly, Panel 11 comprises four parallel lines, an animal figure, and several other glyphs. The panels range in size from 0.5 by 0.7 m to 3.0 by 1.5 m.

An infield artifact analysis was conducted of a 10 by 13 m sample quadrat located in front of Rooms 2 to 5. A total of 42 artifacts were recorded, consisting of 26 ceramics, 8 pieces of debitage, 7 ground stone items, and a basalt axe. The majority of the ceramics are smeared-indented corrugated sherds, with some Wiyo Black-on-white, a Biscuit A, and utilityware sherds. The debitage is composed of core flakes and pieces of angular

debris made of Cerro Pedernal chert/chalcedony. The ground stone are primarily made of rhyolite and consist of a one-hand mano, a two-hand mano, an undetermined mano and metate fragment, and a grinding slab. In addition, five corn cob fragments were collected from Room 2. Based on the diagnostic ceramics, the site appears to date to the Coalition period.

LA 86615

LA 86615 (J-1) is a series of cavates situated along the south-facing cliff face of Mesita del Buey. The site overlooks Pajarito Canyon and stretches for approximately 35 m (115 ft) along the cliff face at an elevation of 2050 m (6727 ft). The area is sparsely covered with a piñon-juniper woodland and an understory of grama grass, saltbush, and snakeweed.

Sixteen cavates, two partially rock-cut kivas, and a possible talus unit are present. The cavates are generally in good condition; however, sooting and plaster is only represented in three cavates. Three cavates (Rooms 10, 11, and 12) may actually be natural. Otherwise, the cavates are generally oval shaped, ranging from about 1.5 to 3 m in diameter. Nine rooms do contain internal fill that is 1 to 30 cm in depth. Seven rooms contain features including niches. Room 8 is a second story cavate located above a kiva (Room 7). It contains ten internal features and rock art consisting of spirals, human figures, an awanyu, a kokopelli, a bird, and a possible deer that have been pecked into the soot covered roof. This cavate could also represent a kiva. Several hand/foot holds are present at the site, many of which connect the lower story to second-story rooms.

Two possible circular kivas were identified at the site (Rooms 7 and 18). Both of these have been partially cut into the cliff face. Room 7 has a substantial bench that was built within the area of the subterranean portion of the wall. The southern and southeastern portions of this room are constructed of stacked tuff masonry blocks. A semicircular earthen and rock mound is located directly outside of this room. Its function is unclear although it may represent the remains of a talus unit containing about five rooms. The other possible kiva is Room 18. It is a semicirclar rock-cut room that has a few masonry blocks present within the room. There is a small rock alignment situated to the immediate southwest of the kiva that could represent a single masonry room.

An infield artifact analysis was conducted of a 10 by 10 m quadrat located on the talus slope below the cavates. A total of 40 artifacts were recorded. Twenty-four of these are ceramics and 36 are debitage. The majority of the ceramics consist of Santa Fe and Wiyo Black-on-white, with some Biscuit A, plainware, obliterated, and indented corrugated utilitywares. Most of the debitage consists of Cerro Pedernal chert/chalcedony core flakes with a few biface flakes, angular debris, and microdebitage. A few pieces of debitage are also made of basalt and a translucent obsidian. Based on the diagnostic ceramics, the site appears to date to the Coalition period.

LA 86616

LA 86616 (J-2) is a series of cavates situated along the south-facing cliff face of Mesita del Buey. The site overlooks Pajarito Canyon and stretches for approximately 37 m (122

ft) along the cliff face at an elevation of 2056 m (6746 ft). The area is covered with a piñon-juniper woodland and an understory of grama grass, saltbush, and snakeweed.

The site consists of 14 cavates that are separated into two groups by a 15 m (49.5 ft) gap. The western cluster contains eight cavates and a talus unit, and the eastern cluster six cavates and a talus unit. The cavates are in relatively good condition. Several cavates display sooting and intact plaster. They are generally oval shaped and 1 to 3 m in diameter. They contain up to 40 cm of internal fill, with niches being present within seven cavates. Rock art is also present in Room 13, including badly deteriorated evidence of human figures and hatching.

At least one good set of masonry block alignments is situated in front of Room 1. This alignment forms a 2 by 2 m rectangle that opens to the north. There is an additional 3 by 5 m masonry block alignment in front of Rooms 12, 13, and 14. Based on the viga holes associated with Room 14, the alignments are likely wall remnants. The rocks are "crudely" stacked and are situated 5 to 6 m down the talus slope. This feature may represent an attempt to construct a flat terrace area in front of the cavate complex.

Artifacts were identified in three cavates and an infield analysis was conducted of two 5 by 5 m quadrats situated in front of the western and eastern cavate clusters. A total of 102 artifacts were analyzed, consisting of 75 ceramics, 24 chipped stone, and 3 ground stone artifacts. Most of the ceramics are smeared-indented corrugated, Santa Fe Black-on-white and Wiyo Black-on-white sherds, with some St. John Black-on-red, Biscuit A, and utilityware sherds. The chipped stone items primarily consist of core flakes, biface flakes, angular debris, and microdebitage made of Cerro Pedernal chert/chalcedony with some basalt and translucent obsidian. In addition, a Cerro Pedernal chert/chalcedony uniface and transulcent obsidian biface were also identified. The ground stone artifacts consist of a basalt one-hand mano, undetermined mano fragment, and grinding slab. Based on the diagnostic ceramics, the site appears to date to the Coalition period.

LA 86617

LA 86617 (J-3) is a cavate complex situated along the south-facing cliff of Mesita del Buey. The site overlooks Pajarito Canyon and stretches along a 43 m (142 ft) section of cliff at an elevation of 2046 m (6715 ft) with isolated piñon, junipers, and ponderosa pines dotting the lower talus slopes. The understory contains grama grass, snakeweed, and saltbush.

The site consists of two separate sets of cavates with two petroglyph panels located on an upper cliff face. In addition, a single dry-laid masonry wall is also located near the rock art panels on the talus slope above the cavates. The cavates are in very good condition, with twelve still containing evidence of sooting and/or plaster. The western set of cavates (provenience #1) contains 18 rooms, most of these are cavates, but there are two rectangular-shaped rooms and a semicircular kiva (Room 16) that have been cut into the cliff face. Cavate 5 contains eight internal features and Rooms 10, 13, and 14 contain rock art. In Room 10 rock art consists of two male figures, a female figure, and possibly a dog. In Room 13 the rock art is a human figure and upside down "Y." Lastly, six spirals

are present in Room 14. There is a masonry wall alignment about 4 m long in front of the kiva. This feature presumably represents a talus unit. The second set of cavates is located about 20 m (66 ft) to the east (provenience #2). This provenience contains only six cavates, a talus room, and two staircases. A masonry rock alignment encloses a rectangular area in front of Rooms 22 to 24. This 2 by 4 m area was designated as Room 21 and presumably represents a talus unit. Overall, the cavates range from 1 to 3 m in diameter and contain 0 to 55 cm of fill. Subsurface deposits may also be present within the talus rooms and kiva.

There are two rock art panels situated on the cliff face above provenience #1. The petroglyphs include several sets of circles and eroded figures.

A dry-laid masonry rock alignment is located on the talus slope immediately below the petroglyphs. It is oriented perpendicular to the slope, being about 5 m long, a maximum of 65 cm high, and is composed of two to three coarses of unshaped tuff blocks. This feature may be historic in age.

All visible surface artifacts within a 10 by 10 m area in front of Room 6, and within a 7 by 6 m area in front of Rooms 19 to 24 were inspected for an infield analysis. A total of 66 artifacts were analyzed, consisting of 38 ceramics, 17 chipped stone artifacts, 10 ground stone items, and a piece of bone. Most of the ceramics are smeared-indented-corrugated sherds with some Santa Fe Black-on-white, corrugated wares, and plainwares. A single ceramic pipe fragment was observed in front of the kiva (Room 16). The majority of the chipped artifacts are core flakes made of Cerro Pedernal chert, with some basalt and rhyolite flakes. A biface flake, a piece of microdebitage, an unidentified flake fragment, and a manuport were also identified. The ground stone artifacts consist of a one-hand mano, a two-hand mano, an undetermined mano fragment, a metate fragment, a millingstone, and an unidentified ground stone fragment. They are made of both rhyolite and basalt materials. A piece of bone was also identified. In addition, one maize cob fragment was collected from Room 10. Based on the diagnostic ceramics, the site appears to date to the Coalition period.

LA 86620

LA 86620 (J-4) is a cavate complex situated along the south-facing cliff face of Mesita del Buey. The site overlooks Pajarito Canyon and covers a 60 m (198 ft) section of exposed bedrock at an elevation of 2046 m (6715 ft). Piñon and juniper trees dot the lower talus slopes. The understory contains grama grasses, snakeweed, and saltbush.

The site consists of a two-story cavate complex with associated petroglyph panels. Cavates 1 to 9 are located in a western cluster and 10 to 21 in an eastern cluster. The two clusters are separated by a roughly 10 m distance. The cavates are generally oval shaped, and range from 1 to 4 m in diameter. They are in various states of preservation. Five display signs of sooting and have remains of plaster, albeit patchy, and six of the rooms have interior features. The cavates contain from 0 to 55 cm of fill. Room 12 is a semicircular shaped rock-cut room that could possibly represent a kiva. Room 22 is an isolated cavate located above the main cavate cluster adjacent to three petroglyph panels.

There are also single boulders located at the western and eastern ends of the site that have shallow circular basins ground into them.

The rock art is located in three separate panels situated on the cliff face above the site. The designs include spirals, a snake, animal figure, a human figure, and two unidentified animals. These panels range in size from 1.5 by 3.0 m to 0.5 by 0.5 m.

An infield analysis was conducted of nine rooms and two sample quadrats located on the talus slope in front of Rooms 1 to 5 (8 by 5 m) and Rooms 16 to 19 (8 by 6 m). A total of 219 artifacts were recorded during the analysis. These consist of 149 ceramics, 67 chipped stone items, and 3 ground stone artifacts. Most of the ceramics are smeared-indented corrugated, Santa Fe Black-on-white, and Wiyo Black-on-white sherds with some utilitywares. The chipped stone items mainly consist of Cerro Pedernal chert/chalcedony core flakes and angular debris, with fewer biface flakes and microdebitage. Basalt and chalcedony materials are also represented. A single Cerro Pedernal chert/chalcedony core fragment, a chalcedony biface, and a translucent obsidian retouched flake were also identified. The ground stone consists of a basalt one-hand mano, a rhyolite undetermined mano fragment, and a rhyolite millingstone. Based on the diagnostic ceramics present, the site appears to date to the Coalition period. Jorgensen collected a metal arrow point from the site in 1986. The point is 75 mm long, 17 mm wide at the shoulders, and 1 mm thick. It presumably was cut from a barrel hoop.

LA 86621

LA 86621 (J-5) is a cavate complex situated along the south-facing cliff face of Mesita del Buey. The site overlooks Pajarito Canyon and covers a 30 m (99 ft) section of the escarpment at an elevation of 2045 m (6710 ft). Isolated piñon and juniper trees dot the lower talus slopes with an understory of grama grass, snakeweed, and saltbush.

The site consists of 13 cavates, six rock-cut rooms, and two rock art panels. The cavates tend to be more circular shaped and the rock-cut rooms more rectangular shaped. Two of the rock-cut rooms are probably talus units, with the back wall of the unit being cut into the adjacent bedrock. Masonry blocks delineate the outline of Room 9. The cavates range from 1 to 3 m in diameter and contain from 0 to 50 cm of fill. Room 9 is about 3 by 4 m in size and also contains subsurface deposits. The cavates are eroded, with three containing evidence of sooting or plaster. Rock art is present in Rooms 7 and 8. Room 7 has an awanyu, a kachina, and animal figure, whereas the rock art in Room 8 is too deteriorated to identify. These rooms may represent kivas based on the presence of rock art, several types of interior features (wall sockets and wall and floor niches in each room), and remnants of plaster.

Jorgensen (1987) described a possible gravel mulch garden located about 35 m below the cavates on valley floor. His sketch illustrates a series of gridded rock alignments within a 11.8 by 4.5 m area. However, this area has been heavily disturbed by dredging activities, and no evidence of this feature currently exists.

The rock art is located on two panels situated on the cliff face above the cavates. The panels are fairly small containing only one design per panel (i.e., circles and an unidentified animal figure).

An infield analysis was conducted of a 10 by 11 m sample quadrat located on the slope in front of the cavates and within Room 9. A total of 44 artifacts were recorded consisting of 18 ceramics, 24 pieces of debitage, a quartzite hammerstone, and a rhyolite two-hand mano. The ceramics primarily consist of smeared-indented corrugated sherds, with Wiyo Black-on-white, Santa Fe Black-on-white, a Biscuit A sherd, and an indented corrugated sherd. The debitage are all core flakes composed mostly of Cerro Pedernal chert/chalcedony with some basalt. Based on the diagnostic ceramics, the site appears to date to the Coalition period.

LA 86622

LA 86622 consists of two petroglyph panels situated on a south-facing cliff along the edge of Mesita del Buey. The panels overlook Pajarito Canyon at an elevation of 2064 m (6774 ft). The talus slope is dotted with piñon and juniper trees, with an understory of grama grasses, snakeweed, and saltbush.

The site is divided into two petroglyph panels that are separated by about 8 m. Panel 1 is situated at the western end and is about 2 m wide and 1.5 m high. It consists of two "kissing" birds, four isolated birds, two dogs, and possibly a star. Below the panel is a pack rat midden. An isolated maize cob was present on the bedrock in front of the midden. The cob was collected.

Panel 2 is approximately 1.1 by 1.1 m in size. It consists of a big bird, little birds, a kokopelli, and a possible human figure. There may have been a third panel located in-between Panels 1 and 2, however, the cliff face has been heavily eroded by water runoff. Nonetheless, there are two small circular sockets in this panel. They are about 10 cm wide and 5 cm deep and are connected by a groove.

The date of the site is undetermined; however, since it is located in an area with multiple Coalition period sites, it may date to this period.

LA 86623

LA 86623 consists of a cavate complex situated along the south-facing cliff of Mesita del Buey. The site overlooks Pajarito Canyon and extends for a about a 25 m (82.5 ft) distance along the escarpment. Piñon and juniper trees dot the lower talus slopes with an understory of grama grass, snakeweed, and saltbush.

There are eight cavates and two rock-cut rooms along a single cliff face and a single cavate and rock-cut room situated upslope about 5 m. They are generally in good condition. Lower cavates are generally circular shaped with two rectangular rock-cut rooms. The latter are a foundation to a talus unit situated in front of Room 7 and rock-cut Room 8. Rubble in the form of shaped masonry blocks are strewn across the slope below the cavates. The upper cavate (Room 10) is subrectangular shaped with a rectangle rock-

cut room (Room 11) nearby. Two of the lower cavates and the upper cavate have niches. The cavates contain from 0 to 40 cm of fill. Two stairways and viga holes for talus units are present on the cliff face. Room 3 may possibly be a kiva based on the presence of several types of interior features (three floor niches, wall sockets, one wall niche, a smoke hole, and five ceiling sockets), heavy smoke sooting, minimal remnants of plaster, and rock art panels with forms unidentified because of heavy erosion.

Three rock art panels are situated on the cliff face above the cavates. Panel 1 is 1.8 m high by 1.4 m wide and contains a maize stalk (1.75 m tall) and a bird. Panel 2 is 1.7 m high by 1.4 m wide and is heavily eroded but contains a maize stalk (25 cm high), a bird, and a possible human figure. Panel 3 is 1.1 m high by 80 cm wide and contains two spirals, one above the other.

An infield analysis was conducted of a 8 by 9 m sample quadrat situated in front of the cavates and within three cavates. A total of 105 artifacts were recorded, consisting of 82 ceramics, 18 chipped stone artifacts, four ground stone items, and a piece of bone. The ceramics are dominated by smeared-indented corrugated and Wiyo Black-on-white sherds, with a Santa Fe Black-on-white, Biscuit A, and some utilitywares. The 13 pieces of debitage are all core flakes mostly made of Cerro Pedernal chert/chalcedony with some rhyolite and chert. In addition, a Cerro Pedernal chert/chalcedony single-directional core and uniface were also identified. The ground stone items consist of a rhyolite millingstone, formal slab metate, and an undetermined piece of ground stone. A piece of burned bone was also identified during the analysis. In 1986, Jorgensen collected two small clay animal figurines at this site. Based on the diagnostic ceramics, the site appears to date to the Coalition period.

LA 86624

LA 86624 is a series of rock art panels situated along the south-facing cliff of Mesita del Buey. The site overlooks Pajarito Canyon and extends for a distance of about 60 m (198 ft) along the cliff. Vegetation in the area is restricted to a few piñon and juniper trees, with some grama grass, snakeweed, and saltbush at an elevation of 2073 m (6733 ft).

The site consists of eight separate petroglyph panels and a single isolated cavate. Panels 1 to 4 cover a 20 m long area. Panel 1 contains a maize stalk and two animal figures. Panels 2 and 3 each contain a single spiral, and Panel 4, a hand with two other glyphs. Panels 5 to 8 also cover a 40 m long area. Panel 5 contains three birds, three animals, and a box containing five rows and seven columns of dots. Panel 6 is an isolated spiral. Panel 7 contains a hand, two animals, and four other glyphs. Lastly, Panel 8 consists of a single animal figure.

A solitary cavate lies below Panel 7. It is 1.8 m deep, 1.88 m wide, and 0.90 high to the ceiling. There is no sooting or plaster present, but it does contain 18 cm of fill.

No artifacts were observed in association with the rock art panels or cavate; however, a single maize cob was found below a pack rat midden between Panels 7 and 8. The cob was collected. With the lack of diagnostic artifacts, the date of the rock art panels is

undetermined; however, since they are located in an area with multiple Coalition period sites, they may date to this period.

LA 86625

LA 86625 (J-9) is a cavate complex situated along the south-facing cliff of Mesita del Buey. The site overlooks Pajarito Canyon. The area contains a piñon-juniper woodland with an understory of saltbush, sage, and grama grass at an elevation of 2041 m (6696 ft).

The site consists of eleven cavates and eleven rock-cut rooms. The site is generally in good condition; however, a few of the rooms are heavily eroded, including Room 21 a possible kiva. The cavates tend to be oval shaped and the rock-cut rooms are both oval and rectangular shaped. Many of the cavates and rock-cut rooms have associated internal features. The most notable of these include a shelf and floor niche in Room 21 (kiva) and a large storage pit that is 1.3 m deep in Room 19. A juniper pole, 1.50 m long, may be the remnant of a ladder present in this storage pit. The rooms contain from 0 to 50 cm of fill. At least three stories are represented in this residential complex with several rooms having been constructed atop others. There are masonry blocks scattered throughout the site, both inside and outside of the structures. Room 18 appears to have had an entryway lined with these masonry blocks. Some burned adobe was identified in Room 21, which, along with Room 18, has rock art etched on to their ceilings. Room 21 contains some particularly interesting rock art, including spotted animal figures and human figures. It is possible that rock-cut Room 6 is also a kiva based on its size and the number of features associated with it.

A single rock art panel is located above the site. It is an isolated glyph of a circle with two horizontal and one perpendicular line. Additional rock art panels are associated with the nearby site of LA 86626, which is located approximately 10 m from the eastern boundary of LA 86625.

An infield analysis was conducted in eleven rooms and a 10 by 15 m quadrat located on the talus slope in front of the cavates. A total of 89 artifacts were recorded, consisting of 52 ceramics, 16 chipped stone items, 16 ground stone artifacts, two pieces of fire-cracked rock, two manuports, and a piece of bone. The ceramics primarily consist of smeared-indented corrugated and Wiyo Black-on-white, with some Biscuit A, obliterated, and non-micaeous plainware sherds. Most of the chipped stone items are Cerro Pedernal chert/chalcedony core flakes with a quartzite bidirectional core and a utilized flake made of a translucent obsidian. The ground stone artifacts consist of eight manos and mano fragments, a millingstone, four grinding stones, and three unidentified metate fragments. All but three of the manos are rhyolite, with one being made of basalt and two of quartzite. The remaining ground stone artifacts are made of rhyolite with some basalt and andesite. Two pieces of rhyolite fire-cracked rock and two manuports were also identified within Room 21. The manuports are unmodified quartzite and basalt cobbles. Lastly, a single bone fragment was also observed within Room 21. Four maize cobs were collected from Room 19. A juniper pole is present inside a large storage pit in Room 19. Burned adobe is present in Room 21. A total of four maize cobs were collected. Two were

recovered from pack rat middens and two from the storage pit in Room 19. Based on the diagnostic ceramics, the site appears to date to the Coalition period.

LA 86626

LA 86626 is a cavate complex situated along the south-facing cliff below Mesita del Buey overlooking Pajarito Canyon. The talus slope is dotted with piñon and juniper trees and a few isolated ponderosa pines. The understory consists of grama grasses, snakeweed, and saltbush. The site lies at an elevation of 2036 m (6682 ft).

The site can be divided into upper and lower sections. The lower section is a complex of eight cavates and seven rock-cut rooms. Four of the latter rooms are also talus units. The site covers a 30 m (99 ft) distance along the exposed bedrock and is two stories high. The cavates are generally in good condition, although there is little plaster or sooting remaining. They are circular to subrectangular in shape, averaging 2 to 3 m in diameter. Six of the cavates have niches and two contain rock art. The rock art in Rooms 11 and 15 consists of dots and a human figure. Room 15 may represent a kiva. It has several loom holes on the floor, three niches, a smoke hole, and a floor pit. Room 10 has a section of dry-laid masonry wall remaining at its entrance. The rock-cut rooms are generally rectangular in shape. Four of these units have masonry alignments reflecting wall foundations. Room 13 has a slight semicircle cut into the bedrock, one- and two-story niches, and part of a large multiroom talus unit. The talus unit is approximately 5 by 7 m in size and has a partially intact lower terrace wall. Three coarses of this lower talus wall remain intact. The area is littered with shaped tuff masonry blocks, averaging 30 to 50 cm long and 20 cm wide. There are three small catchment basins that have been pecked into the bedrock along a runoff gully situated to the immediate east of the site.

The upper section of the site consists of eight rock art panels. The panels contain mostly animal figures, including birds and a dog. Otherwise, there is a set of hands, a human figure, a circle with dots, and some other figures.

An infield analyis was conducted in three rooms and a 5 by 9 m sampling quadrat located on the slope in front of the cavates. A total of 55 artifacts were analyzed, including 36 ceramics, 18 chipped stone artifacts, and a rhyolite grinding slab. Most of the ceramics are smeared-indented corrugated sherds with some Wiyo Black-on-white, Santa Fe Black-on-white, undetermined whitewares, a Biscuit B sherd, and some utilitywares. The chipped stone primarily consists of Cerro Pedernal chert/chalcedony core flakes, with some undetermined flake fragments and angular debris. A few pieces of debitage are also made of rhyolite and a translucent obsidian. A single Cerro Pedernal chert/chalcedony single-directional core was also identified. Some maize cobs were collected from Room 15 in 1986 by Jorgensen. Based on the diagnostic ceramics, the site appears to date to the Coalition period.

LA 86627

LA 86627 (J-11) is a cavate complex situated along a south-facing cliff of Mesita del Buey overlooking Pajarito Canyon. Situated at an elevation of 2041 m (6698 ft), the

lower talus slope is covered with piñon, juniper, and a few isolated pondarosa pines. The undertory comprises grama grass, snakeweek, and saltbush.

The site can be divided into upper and lower sections. The lower section consists of 14 cavates, a rock-cut kiva (Room 10), and masonry foundations representing three talus units. Together these features cover a 40 m (132 ft) distance along the cliff. The cavates are in relatively good condition, although only three contain evidence of plaster or sooting. The cavates contain from 0 to 50 cm of fill, and five have internal features. Two cavates also have rock art etched into their ceilings. Room 8 contains a single rectangle and Room 14 an animal figure, a human figure, a spiral, and three other glyphs. Foundation rock alignments can be found on a 3 m wide bench in front of the cavates. These foundations represent at least three separate talus units, including Rooms 1 and 2. Room 1 is about 3.5 by 4.5 m in size. In addition, remnants of a five-coarse-high terrace wall is also evident at the western end of the site near Room 1. This section is about 3 m long and 70 cm high. A small portion of standing masonry wall is also present at the doorway of Room 16. This portion consists of upright tuff blocks on either side of the doorway and four-coarse viga blocks on the east side of the entrance.

Petroglyphs are also present in the area of the cavates (Panels 1 to 6). Panel 1 is a set of dots, an animal figure, and a series of seven viga holes above Room 6. Panel 2 is the rectangle within Room 9. Panels 3 and 4 are located adjacent to Room 14. They contain two spirals and an animal figure. Panel 5 is located within Room 14. Panel 6 is a single spiral situated between Rooms 13 and 15. A series of panels are also present on the cliff face above the cavates. Panels 7 to 13 and 15 contain several spirals, birds, an animal figure, dots set within a rectangle shape, and a geometric pattern.

An infield analysis was conducted within two rooms and an 8 by 15 m sample quadrat located on the talus slope in front of the cavates. A total of 47 artifacts were identified during this analysis. Of the 35 ceramics, 10 Wiyo Black-on-white were by far the most prevalent painted ware, although one Santa Fe Black-on-white sherd was also present. Seventeen smeared-indented sherds and three unidentified whitewares were also identified. The chipped stone artifacts consist of seven core flakes and a piece of debitage that are mostly made of Cerro Pedernal chert/chalcedony with some rhyolite and basalt. The ground stone artifacts consist of a basalt two-hand mano, two unidentified rhyolite metate fragments, and an unidentified piece of rhyolite. Based on the diagnostic ceramics, the site appears to date to the Coalition period.

LA 86628

LA 86628 (J-12) is the remains of four cavates and four rock art panels situated along the south-facing cliff face of Mesita del Buey. The area was the "blast zone" used for artillery testing during the 1950s. There are a few isolated piñon and juniper trees in the area, but the talus slope is covered with rock debris. The site is situated at an elevation of 2038 m (6689 ft)

Much of the site has presumably been destroyed by the explosives. The remaining two cavates, one rock-cut room, and three rock art panels have all sustained some degree of

damage. Ammunitions testing caused the collapse of the upperlying rock allowing it to fall down onto the archaeological remains. Holes in the cliff face mark the locations where the lead-tipped projectile struck the surface. Several lead tips remain on the talus slope and within these holes. Cavates 1 and 3 have been badly damaged; however, Cavate 2 remains largely intact with plaster still remaining on the walls. It appears to have been protected by a large boulder that fell down and closed the entrance. A large pack rat midden currently fills the floor niche in Cavate 2. Cavate 4 is situated on the cliff face above the other cavates, but could not be accessed because of rock fall.

An adjacent cliff face contains petroglyphs with several kachinas; however, part of this panel has also been destroyed by the blasting. Otherwise, there are three other rock art panels located on the cliff face above the cavates. Panels 1 and 2 contain spirals, animal figures, a plant stalk, and two squares with lines radiating out. Panel 3 contains an animal figure, a human figure, two horizontal lines with 12 to 13 connected diamonds that are underlain with a line, and six half-circle shapes.

An infield analysis was conducted of a 6 by 7 m sample quadrat located on the talus slope about 9 m south of the site datum. This area was less disturbed than the upper area of the site. A total of 79 artifacts were recorded, including 47 ceramics, 20 chipped stone items, 11 ground stone artifacts, and a piece of fire-cracked rhyolite. The majority of the ceramics consist of smeared-indented corrugated and Wiyo Black-on-white sherds, with a Santa Fe Black-on-white, two Biscuit A, and several utilityware sherds. Most of the chipped stone is Cerro Pedernal chert/chalcedony core flakes and angular debris, with a few pieces made of basalt. In addition, there is a Cerro Pedernal chert/chalcedony core fragment, a basalt retouched flaked, and a chalcedony biface. The ground stone artifacts are relatively numerous in this sample. They consist of a rhyolite one-hand mano, a rhyolite and vesicular basalt two-hand mano, an undetermined rhyolite mano fragment, a rhyolite millingstone, and four rhyolite formal slab metates. Based on the diagnostic ceramics, the site appears to date to the Coalition period.

LA 86629

LA 86629 (J-13) is a cavate complex situated along the south-facing cliff of Mesita del Buey overlooking Pajarito Canyon. The area is vegetated by a piñon-juniper woodland located at an elevation of 2063 m (6698 ft). The understory consists of grama grasses, saltbush, and snakeweed.

The site can be divided into three sections: western cavate complex, eastern cavate complex, and rock art panels located on the cliff face above the cavates. The eastern and western portions of the site are separated by a large runoff gully that drains the mesa top. A total of six cavates and 16 rock-cut rooms are present on the site. None of the rooms display sooting or plaster, although most are in relatively good, but somewhat eroded, condition. The cavates are generally oval shaped, and the rock-cut rooms are both oval and rectangular shaped. These rooms range from 1.5 to 3.5 m in diameter and contain up to about 50 cm of fill. Only six rooms contain internal features, although there are numerous viga holes and petroglyphs located on the exposed bedrock. The petroglyphs include human figures, animal figures, spirals, and corn designs. The viga and latilla

holes indicate that the site was two stories high. At least three talus units are present as well, most have deteriorated because of the steep nature of the talus slope. However, one portion remains intact in front of Rooms 17 and 20, including three coarses. Room 22 is interesting in that a large boulder rests in the center. This room has hand/foot holds along its sides and a basin area at the top (approximately 1 by 2 m in size). Below the boulder are a series of at least nine mortar holes pecked into the bedrock and into a smaller boulder located to the immediate southeast. These holes are lined up in a "v" shape and form two "paths" leading to the base of the large boulder. There are also a total of seven hand/foot holds, walking paths, and/or stairways that lead to the mesa top.

The western and eastern sections of the site are divided by a 1 to 15 m wide runoff gully that is heavily vegetated. It appears that the inhabitants of the site took advantage of this natural drainage and modified the area to suit their needs. Two water-control features are present at the site (Features 23 and 24). One is situated at the northern (upper) end of the drainage and another at the south (lower) end of the drainage. These are both pool-like features. The cliff face at the northern feature (Feature 23) has been pecked to direct the flow of water into the feature. The southern feature (Feature 24) has a three-coarse-high and 70 m long wall that connects two large boulders.

Artifact density at the site is relatively low because of the movement of materials downslope. An infield analysis was conducted of a 6 by 7 m sampling quadrat that was located in front of Rooms 13 to 17. Isolated artifacts within four rooms were also analyzed. A total of 25 artifacts were recorded. These consist of 18 ceramics, four core flakes, a quartzite cobble manuport, an undetermined rhyolite mano fragment, and a rhyolite millingstone. Only four artifacts were observed within the rooms, including the manuport and millingstone. Ten of the ceramics are smeared-indented corrugated sherds, with two Wiyo Black-on-white, one Santa Fe Black-on-white, and four utilityware sherds. The core flakes are made of Cerro Pedernal chert/chalcedony, chalcedony, and translucent obsidian. Based on the diagnostic ceramics, the site appears to date to the Coalition period.

LA 86630

LA 86630 (J-15) is a cavate complex situated along a 65 m (214.5 ft) section of the south-facing cliff face of Mesita del Buey. The site overlooks Pajarito Canyon and is located at an elevation of 2024 m (6641 ft). Isolated piñon, juniper, and ponderosa pine trees dot the talus slope. The understory contains grama grasses, snakeweed, and saltbush.

The site consists of a cavate complex with associated petroglyph panels. Most of the eight cavates are in good condition, with some being highly eroded and barely visible. The cavates range from 1.3 to 2.5 m in diameter and the largest talus unit measures 3.5 by 5.5 m. The talus rooms consist of masonry rock alignments that could represent a lower block of rooms in front of Rooms 4 and 5. Rooms 4 and 5 also have masonry blocks situated at their entrances. A study of ten masrony blocks indicates that they range from 37 to 50 cm in length and 16 to 20 cm in width. The cavates contain from 0 to 34 cm of fill. Five rooms have internal features, such as floor and wall niches, floor sockets,

doorways, and smoke holes. Artifacts litter the area in front of the rooms and the remains of at least one talus room (Room 6) is present. This talus unit is located about 13 m east of the other features. Three foot paths were identified at the site, one at the western end and two right next to one another at the eastern end. The western path is associated with Rooms 1 to 4.

There are three rock art panels associated with the site. The first of these is approximately 13.5 m east of the complex and includes a spiral, an anthropomorphic figure, and two maize stalks. Room 6 is located in this area. The second and third panels are actually on the same boulder located about 30 m further east. This boulder has a kokopelli on the southeast face and two human figures on an eastern face.

An infield analysis was conducted of a 6 by 8 m sampling quadrat located in front of Rooms 3 to 5. In addition, isolated artifacts within three rooms were analyzed. A total of 64 artifacts were recorded, consisting of 31 ceramics, 28 chipped stone, and five ground stone items. The majority of the ceramics are smeared-indented corrugated and Wiyo Black-on-white sherds, with fewer Santa Fe Black-on-white, Biscuit A, and utilityware sherds. Most of the chipped stone artifacts are core flakes made of Cerro Pedernal chert/chalcedony and translucent obsidian materials, with some microdebitage, undetermined flake fragments, a translucent obsidian core, and a translucent utilized flake. The core is a large primary flake recovered from Room 6. One surface of the core is covered with nodular (i.e., naturally weathered) cortex, indicating that it had been procured from a primary source. The core is about 18.5 cm long and weighs 1274 g. The ground stone are all made from rhyolitic materials and consist of a one-hand mano, a two-hand mano, and two undetermined mano fragments. Based on the diagnostic ceramics, the site appears to date to the Coalition period.

LA 86631

LA 86631 (J-16) is a series of rock art panels distributed over a 80 m (264 ft) distance along a south-facing cliff of Mesita del Buey. The panels overlook Pajarito Canyon and are located at an elevation of 2024 m (6642 ft). The area is covered by a piñon-juniper woodland with several types of grama grass, saltbush, and snakeweed also present.

The site consists of six petroglyph panels, each with a number of subpanels that stretch along the exposed cliff. The single exception is Panel 3, which consists of a single figure. The panels are number 1 to 6 from east to west. Panel 1 contains about 15 glyphs, including a kokopelli, human figures, animal figures, and geometric shapes. Panel 2 is located about 2.5 m west of Panel 1. It contains about 15 glyphs, including a kokopelli, human figures, animal figures, and maize stalks. Panel 3 is situated about 2 m west of Panel 1 and comprises a single human figure. Panel 4 is located about 5 m west of Panel 3 and contains about eight glyphs, including a human figure and several other unidentified motifs. Panel 5 is situated about 3 m west of Panel 4. It comprises a single spiral and maize stalk in one location and six nearby glyphs with three possible viga holes. These glyphs are concentric circles, one of which is similar to a Zia sun symbol, a snake, and an animal figure. The glyphs are located on a section of the rock that has separated from the cliff face. This has left a small space behind the panel within which

another vigalike hole was pecked. Lastly, Panel 6 is located about 10 m west of Panel 5 and consists of four glyphs including a bird, an animal figure, and a horned human figure. Several of the panels display some evidence of deterioration, particularly Panels 5 and 6, but overall are recognizable and in good condition. The site datum is located at Panel 5.

A few isolated artifacts were observed in the area of the site. These consist of a Wiyo Black-on-white bowl sherd, a Santa Fe Black-on-white bowl sherd, a piece of obsidian, and approximately five to ten pieces of lithic debitage. The latter are made of Cerro Pedernal chert/chalcedony. Based on the diagnostic ceramics, the site appears to date to the Coalition period.

LA 86632

LA 86632 (J-17) is a series of rock art panels that cover a 90 m (297 ft) stretch of south-facing cliff along Mesita del Buey. The site is situated at an elevation of 2020 m (6627 ft) in a piñon-juniper woodland setting.

There are eight separate rock art panels represented at the site, including several that are composed of individual subpanels (e.g., Panels 2 and 5). The panels were numbered 1 to 8 from west to east and are located on different rock faces. Panel 1 contains a single spiral and two small glyphs. Panel 2 comprises two birds, a spiral, and geometric shapes. Panel 3 consists of a human figure and three other glyphs. Panel 4 comprises three human figures, two spirals, and a set of concentric circles with a human figure "holding up" the circle with one hand. Panel 5 consists of two human figures. Panel 6 comprises a single bird. Panel 7 consists of a kokopelli, a snake, and four other glyphs. Lastly, Panel 8 comprises two rectangles filled with dots and possibly a human figure with lines for the body, arms, and legs, but a spiral for the head. A possible isolated viga hole is also associated with Panel 8 that is 15 cm in diameter and 15 cm deep. The site datum is located at Panel 4 near the center of the site.

A few artifacts were observed in the area of the site. The artifact scatter is denser here than at the nearby site of LA 86631. The scatter includes several Wiyo Black-on-white sherds, over 25 obsidian flakes and nodules/cores, several pieces of ground stone (especially at Panels 6 to 8), and about 25 other pieces of debitage made from Cerro Pedernal chert and chalcedony. Based on the diagnostic ceramics, the site appears to date to the Coalition period.

RESEARCH ISSUES AND SITE CONDITION ASSESSMENT

Question 1: To what period(s) do the cavates date?

The presence of mostly Wiyo Black-on-white with some Santa Fe Black-on-white ceramics indicates that the cavate sites date to the Coalition period (ca. AD 1200 to 1325). Therefore, they are contemporaneous with the many pueblo ruins present on Mesita del Buey. On the other hand, they predate the Classic period occupation at the nearby site of Tsirege.

Question 2: Is the internal organization of the sites similar, or does this pattern change over time?

Site Size

All the cavate sites date to the Coalition period. Since they primarily contain Wiyo Black-on-white, they are presumably penecontemporaneous. Based on the number of cavates and rock-cut rooms, the sites can be divided into three size groups: 1) 6 to 8 rooms (n = 2), 12 to 19 rooms (n = 6), and 21 to 25 rooms (n = 4). However, each of the latter four sites are actually separated into two intra-site clusters that range from 9 to 18 rooms in size. Therefore, the average site contains about 12 rooms. LA 86628 is excluded from this analysis because it was partially destroyed.

Cavates, Rock-Cut Rooms, and Kivas

The majority of the sites contain both cavates and rock-cut rooms. There are approximately 200 of these structures, most of which are circular-shaped cavates. In contrast, most of the rock-cut rooms are rectangular shaped (n = 33), with at least five circular-shaped rooms also being identified. The most common features associated with the rock-cut rooms are viga holes and viga grooves. Cavates tend to have a greater number of features and more variety in feature type. Floor niches are by far the most common feature encountered within cavates (n = 77), however, many cavates and rock-cut rooms had no features (ca. 69 rooms). Rock art within cavates is relatively rare compared with exterior rock art panels, but it does occur within cavates at nine sites. Whereas, floor and wall niches are typically found in cavates, only two hearths were identified. However, internal floor fill may be obscuring these features.

Most of the cavate complexes contain rooms that could represent kivas. This includes four sites that have large semicircular rock-cut rooms, one of which has an internal bench. Another four sites contain cavates with a variety of internal features. These features consist of rock art, wall and floor niches, wall shelves, and wall, ceiling, and floor sockets, which are possible loom holes.

Talus Units

Twelve of the sites have the remains of talus units, with rock alignments being quite common. Indeed, two sites (LA 86629 and LA 82605) have the remains of terrace walls that are still several courses high. The talus rooms are often located in front of cavates or rock-cut rooms, indicating these features were actually situated behind one or more rows

of standing masonry rooms. LA 82605 contains the largest talus unit with ten or more rooms.

Water-Catchment and Retention Features

Two sites have water-catchment and -retention features. LA 86626 has three water-catchment basins. Sections of the bedrock along a runoff gully were carved and pecked out to facilitate water collection. LA 86629, a large cavate complex, appears to have much more substantial water-control features, including three catchment basins pecked into bedrock. The placemnt of these catchment basins directed water from an upper bench inot the retention features below the pecked area. At LA 86629, two large water-retention areas were identified, one directly below the features pecked inot bedrock, the other approximately 30 m downslope. These features consist of a circular area enclosed with boulders and in some places have at least three courses of masonry rocks.

Question 3: What are the similarities and differences between the motifs found within cavates and the external petroglyphs?

In general there is more diversity in the rock art panels located outside the cavates. This includes a wider variety in design and greater numbers of petroglyphs. Diamonds, triangles, maize, concentric circles, hands, and lines are all found outside the rooms. Maize stalks are very common outside of rooms, but none were observed within rooms. It may be that the large size of these glyphs precluded their being drawn within the confines of a cavate. On the other hand, dotted animals are only found within cavates, although there are boxes and circles containing dots in outside contexts. Spirals are present both within and outside cavates, but are much more common outside of cavates. The same is true for kokopelli figures and birds, with only one example of each being present within a cavate. Lastly, human and animal figures are commonly encountered inside and outside rooms and are the most highly represented glyphs.

Question 4: What condition are the cavates currently in, and is there evidence that they have changed since the 1986 survey?

Jorgensen conducted a preliminary survey of the cavates along Mesita del Buey in 1986. During the survey he made preliminary sketches and took some photographs. Photographs were taken of rock art present within the cavates, exterior petroglyph panels, and general outside views of the cavates. Comparisons can be made between these old photographs and newly taken photographs to determine if the sites have changed significantly during this fourteen-year period.

Interior Rock Art

Interior cavate rock art is present at sites LAs 86615, 86617, 86621, and 86625. Photographs were taken of these glyphs in 1986 and retaken in 2000. This rock art was formed by pecking through the black soot covered ceiling of the cavate and exposing the clean underlying white tuff. This form of art has been referred to as the Mortandad style, since it was first described in Mortandad Canyon. The contrast between the black and white makes the glyphs highly visible. These glyphs should be sensitive indicators of

both external ambient environmental conditions and any vibrations that might have been produced at TA-54. Deterioration would be clearly visible if portions of the blackened tuff detached from the roof exposing the underlying clean white tuff.

Room 8 is a second-story cavate located above a kiva at LA 86615. It contains ten internal features and rock art consisting of spirals, human figures, an awanyu, a kokopelli, a bird, and possibly a deer that have been pecked into the soot covered roof. This cavate could also represent a kiva. Figure 3 shows a comparison of photographs taken of two animal figures overlying an awanyu. A close inspection of the two photographs indicates that there is little or no difference between the photographs. The animal figure on the right is still intact and appears to be identical. The same is true for the middle figure and the section of the awanyu visible in the photograph. The left animal figure (possibly deer) is less clear in the 1986 photograph, but it too appears to be unchanged.

Figure 4 shows the area to the immediate right of the previous photograph. Jorgensen's photograph is somewhat washed out and difficult to see. But you can discern an animal figure and a zig-zag line on the right side, the animal's head from the previous photograph, and a possible human figure on the left side. Again, there does not appear to be any significant differences between the old and recent photographs of the glyphs situated on the right side. The human figure on the left side is too washed out in the old photograph to make any clear comparison, but it too appears to be unchanged.

Room 10 at LA 86617 contains seven internal features and rock art consisting of two male figures, a female figure, and possibly a dog. Jorgensen photographed the male and female figures overlying the dog. Figure 5 illustrates these old and recent photographs. A comparison of these photographs also reveals that they have not changed during this fourteen-year period.

Room 7 at LA 86621 contains four internal features and rock art including an awanyu, a katchina mask, and an animal figure. Figure 6 contrasts the 1986 and 2000 photographs of these glyphs. The photograph was taken at the entrance of the cavate and provides an overview of the cavate back wall and ceiling. A portion of the rock art is visible in the blackened ceiling, although glyphs are also present on the exposed tuff along the back wall. An inspection of the photographs reveals that the rock art on the ceiling is relatively unchanged. A small patch of plaster present on the back wall in the lower right side of the photograph also appears to be quite similar. The two niches in the back wall have not changed, and the masonry block lying on the floor of the cavate is still situated in the same location.

Room 2 at LA 86625 is a possible kiva, including rock art with spotted animal figures and human figures. The 1986 and 2000 photographs illustrate a series of animal figures with at least one human figure at the lower left. A comparison of these photographs in Figure 7 again reflects little, if any, change. Indeed, small patches of plaster are still present in the lower right-hand corner. Figure 8 shows the spotted animal figure. Clearly, the glyph has not changed, and the small patches of plaster underlying the figure are also still intact.

1986

2000

Figure 3. 1986 and 2000 photographs of LA 86615 cavate rock art (Room 8).

1986

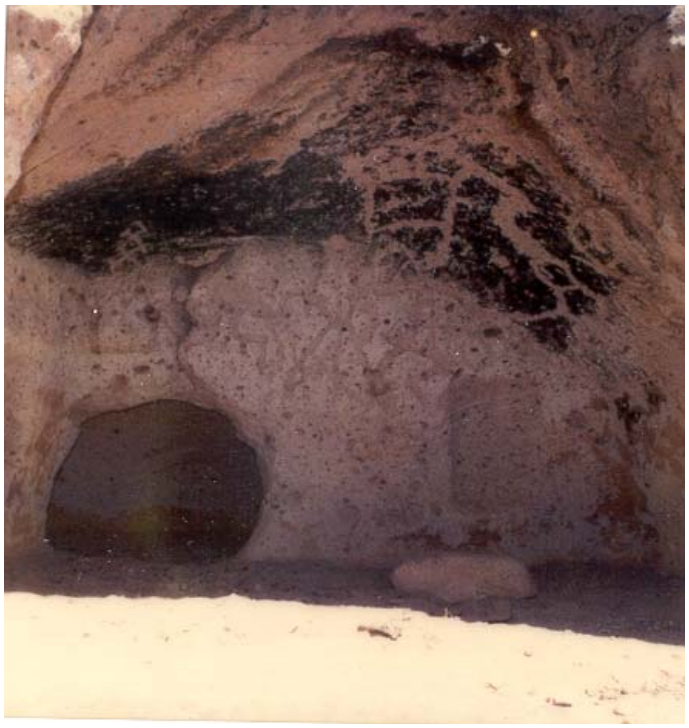
2000

Figure 4. 1986 and 2000 photographs of LA 86615 cavate rock art (Room 8).

1986

2000

Figure 5. 1986 and 2000 photographs of LA 86617 cavate rock art (Room 10).



1986

2000

Figure 6. 1986 and 2000 photographs of LA 86621 cavate rock art (Room 7).

1986

2000

Figure 7. 1986 and 2000 photographs of LA 86625 cavate rock art (Room 2).

1986

2000

Figure 8. 1986 and 2000 photographs of LA 86625 cavate rock art (Room 2).

Exterior Petroglyphs

Rock art in the form of exterior petroglyphs is also present along the exposed cliff faces located above the cavate sites. These cliffs face south and are therefore exposed to the direct sunlight and natural weathering. Photographs are of a sufficient quality to make comparisons among four rock art panels distributed along the mesa edge.

LA 82605 is a cavate complex with eleven rock art panels located above it. Panel 10 contains two maize stalks. Figure 9 illustrates this panel in 1986 and today. The glyphs were pecked into a dark colored surface on the bedrock and are still in very good condition.

LA 86622 consists of two petroglyph panels. Panel 1 contains two "kissing birds," four other birds, two dogs, and possibly a star. Jorgensen's 1986 photograph can be compared to the recent photograph in Figure 10. As can be seen, the rock art panel is still in very good condition. All the glyphs are clearly visible and have not changed since 1986.

LA 86624 consists of eight petroglyph panels. Panel 5 contains three bird figures, three animal figures, a spiral, and a box with dots inside. The dots are roughly arranged five rows high and seven columns wide. Figure 11 illustrates this panel in 1986 and today. Most of the glyphs are difficult to see, however, the box with the dots is clearly visible in both photographs. It too is in good condition.

LA 86626 includes the remains of four cavates and four rock art panels. This site was mostly destroyed by artillery testing during the 1950s; however, sections of the rock art panels are still intact. One example of this is a panel located on the cliff face above the cavates. Panel 3 contains an animal figure, a human figure, and two horizontal lines with numerous connected diamonds that are underlain with a line and several half-circle shapes. Figure 12 illustrates this panel in 1986 and today. The panel is somewhat worn, but does not appear to have changed over the years.

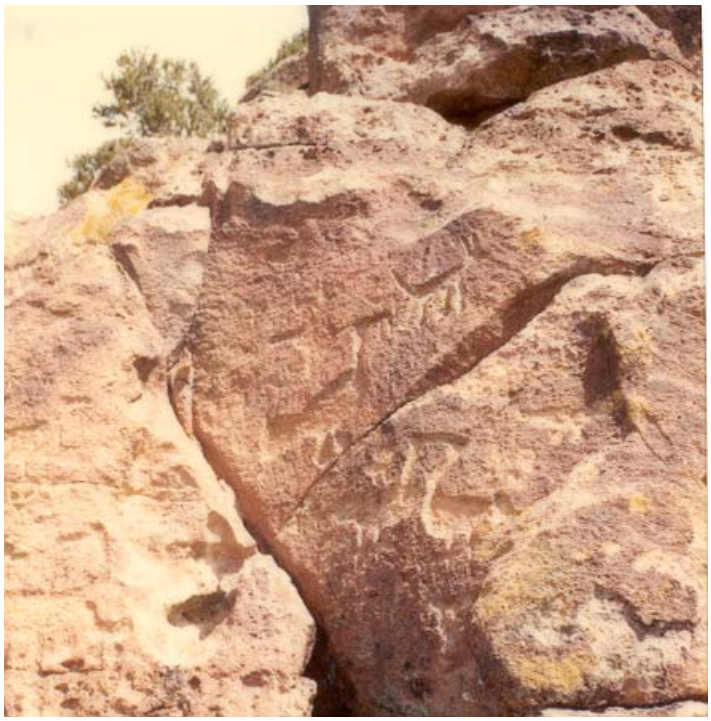
General Views

Figure 13 provides a general site view of LA 86629 in 1986 and today. The photographs illustrate that there has been little, if any, change in the cliff face where the cavates and rock-cut rooms are located. In addition, a review of the slope above the sites shows that this area has also been stable, with the visible boulders still lying in place.

1986

2000

Figure 9. 1986 and 2000 photographs of LA 82605 petroglyph panel.



1986

2000

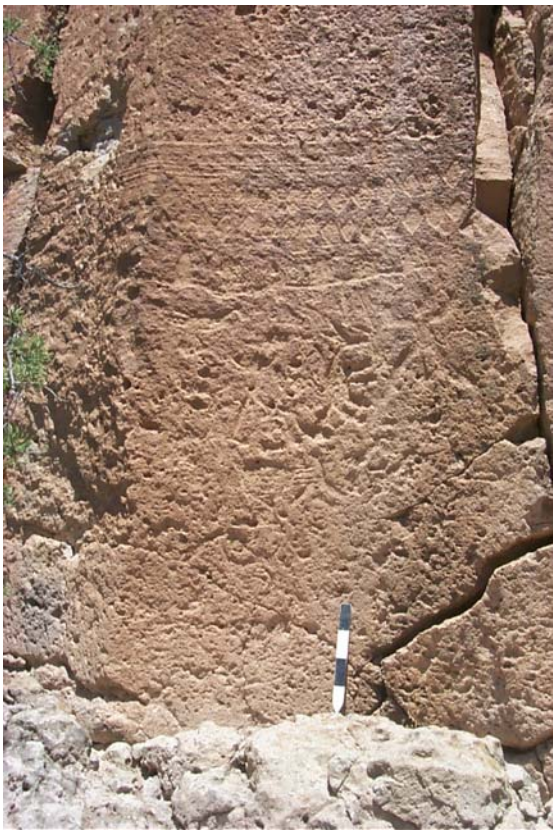
Figure 10. 1986 and 2000 photographs of LA 86622 petroglyph panel.

1986

2000

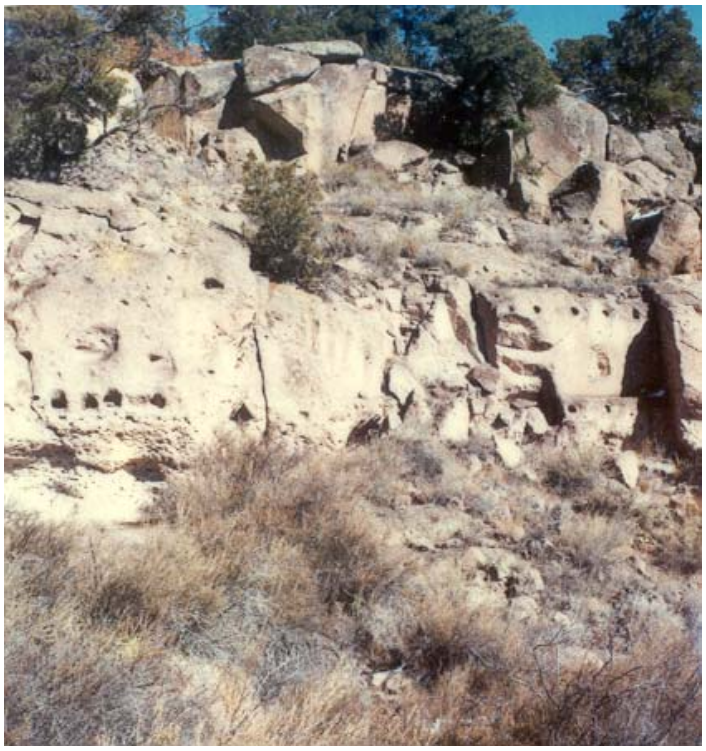
Figure 11. 1986 and 2000 photographs of LA 86624 petroglyph panel.

1986



2000

Figure 12. 1986 and 2000 photographs of LA 86626 petroglyph panel.



1986

2000

Figure 13. 1986 and 2000 photographs of LA 86629.

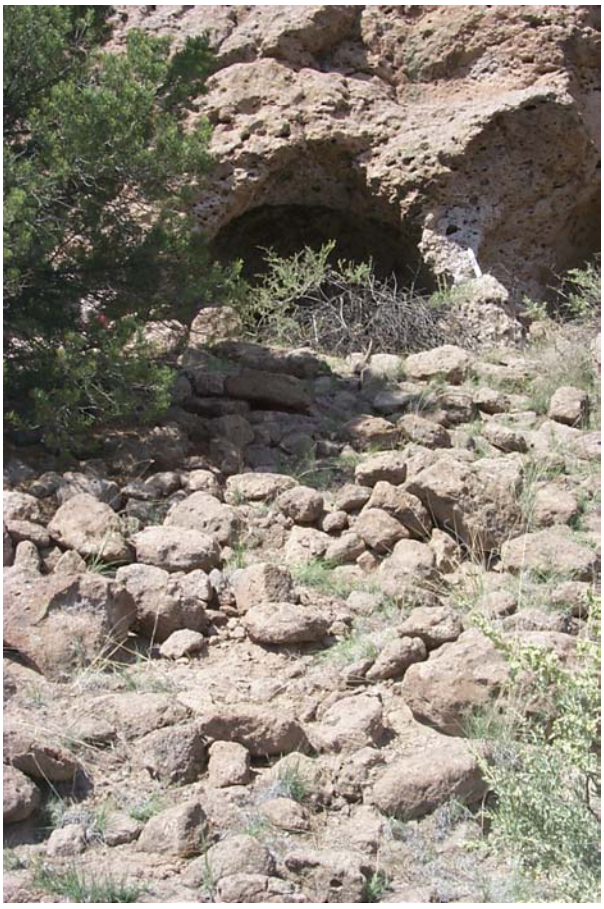
A section of a standing masonry wall was identified at the entrance to Room 10 at site LA 86626. Photographs taken in 1986 and today show that the wall is relatively unchanged (Figure 14). The two masonry blocks situated at the right of the photographs have shifted only slightly.

Figure 15 shows a standing masonry terrace wall at LA 86626 and masonry blocks associated with a talus unit at LA 86630. Similar photographs were not taken in 1986, but these illustrations reflect the high degree of integrity and architectural preservation at some of the sites.

1986

2000

Figure 14. 1986 and 2000 photographs of masonry wall at the entrance of Room 10 at LA 86626.



2000

Figure 15. 2000 photographs of masonry terrace wall at LA 86626 (upper) and masonry blocks associated with a talus unit at 86630.

RECOMMENDATIONS

The Cultural Resource Team at ESH-20 recorded thirteen cavate and four rock sites located along the southern face of Mesita del Buey. This project was initiated at the request of the Facilities and Waste Operations Division at LANL. The work was conducted in response to concerns raised by the Pueblo of San Ildefonso that activities in Area G at TA-54 were adversely affecting nearby cavate sites. The project was therefore designed to collect information on the nature and condition of these sites. The sites are generally in good condition; however, LA 86628 is the only site that is in extremely poor condition because it was mostly destroyed by artillery fire in the 1950s.

Comparisons of photographs taken in 1986 and today reveal that the sites have changed very little during this fourteen-year time period. Rock art that has been cut into the ceilings and walls of the cavates is especially sensitive to vibration and changes in ambient environmental conditions. Nonetheless, there is no obvious evidence of deterioration at the four sites where rock art is present. The same is true for the exterior petroglyphs. Very little obvious change is visible in the condition of the glyphs at four separate site locations. Lastly, the overview photograph of LA 86629 (see Figure 13) shows little, if any, change in the area of the cliff, and the remnants of a masonry wall at the entrance to Room 10 at LA 86626 is also in the same condition.

Overall, the sites are generally in good condition and comparisons show little change in their condition over the fourteen-year period. There are only two cavate sites (LAs 82606 and 86630) and two rock art sites (LAs 86631 and 86632) that are located below Area G in TA-54. The five cavates at LA 82606 are mostly deteriorated, with the majority of the eight cavates at LA 86640 being in good condition. Neither of these cavate sites contain internal rock art.

A series of photographs were taken of all the sites, features, and rock art. These photographs can now be used as a baseline of comparison for future condition assessments. Another alternative is to place a mat of geotech material on the floor of Room 8 at LA 86630. Room 8 is an enclosed cavate that opens into adjacent Room 5. It would therefore be less susceptible to the ambient environment than a cavate that opens out towards the direct sunlight. This matting could be periodically checked to see if any materials have fallen off the ceiling on to the floor.

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APPENDIX A

Project Area Map

PROPRIETARY DATA

The information contained in this appendix is proprietary and available on a need-to-know basis from the Ecology group.

APPENDIX B

Site Summary Information

PROPRIETARY DATA

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APPENDIX C

Site Forms

PROPRIETARY DATA

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